Carbon and Nitrogen Measurements at the Sediment Water Interface on the Fraser and Nanaimo Estuaries

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Les numéros 1 à 25 de cette série ont été publiés à titre de Records statistiques, Service des pêches et de la mer. Les numéros 26-160 ont été publiés à titre de Rapports statistiques du Service des pêches et de la mer, Ministère des Pêches et de l'Environnement. Le nom de la série a été modifié à partir du numéro 161.

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ABSTRACT

Brown, T. J., and J. R. Sibert. 1982. Carbon and nitrogen measurements at the sediment water interface on the Fraser and Nanaimo estuaries. Can. Data Rep. Fish. Aquat. Sci. No. 350: iv + 77 p.

Particulate sedimentation was sampled on 14 occasions on the Fraser Delta from April, 1980 to June, 1981 and eight occasions on the Nanaimo Delta from September 5, 1979 to June 17, 1981. This report presents the carbon, nitrogen and total particulate material from the sediment tubes.

Key words: particulate organic matter, sediment tubes, carbon, nitrogen

RESUME

Brown, T. J., and J. R. Sibert. 1982. Carbon and nitrogen measurements at the sediment water interface on the Fraser and Nanaimo estuaries. Can. Data Rep. Fish. Aquat. Sci. No. 350: iv + 77 p.

Les particules sédimentaires ont été échantillonnées en 14 occasions dans le delta du Fraser, d'avril 1980 à juin 1981, et en huit occasions dans le delta de la Nanaïmo, du 5 septembre 1979 au 17 juin 1981. Le présent rapport donne le contenu en carbone et en azote et le total des particules sédimentaires dans les carottes de sédiments.

Mots-clés: particule de matière organique, carottes de sédiments, carbone, azote

METHODS

The three Fraser Delta stations, Iona, Steveston, and Roberts Bank, are shown in Fig. 1. Iona Island sewage channel station is shown in Fig. 2, site 1. Steveston pit benthic sampling occurred at site 6 (Fig. 3) and the Roberts Bank sampling occured at site 1 (Fig. 4). The sample sites on the Nanaimo estuary are shown in Fig. 5.

Sediment traps were used to sample particulate organic matter because of their simplicity, ease of use and because they take a sample integrated over a long period. All traps were cylindrical with depth 10 times the inside diameter. The standard tube used for routine sampling had a diameter of 5.03 cm. The tubes were filled with water and sets of five or six were inserted into the sediment at low tide with openings at different elevations above the sediment surface. The tubes were left for one complete tidal cycle (ca. 25 hr) and recovered at low tide. Prior to recovery the height of each tube was measured. The sediment and water was decanted into a jar and returned to the laboratory for analysis. Particulates were captured on precombusted glass fiber filters, washed from the filters with distilled water into petri dishes, dried in an oven at 60°C and weighed. After homogenization in a mortar and pestle, organic carbon and nitrogen were determined in a Perkin-Elmer model 240A CHN analyser with the combustion furnace set at 725°C (Beyers et al. 1978).

The period of time which the tubes were covered by water was determined by tidal height observations at Point Atkinson. Tube catches were expressed as submerged grams of sediment, carbon and nitrogen trapped per hour per unit of tube area. In this way tubes of different sizes or different elevations could be compared.

RESULTS

The results are presented in Tables 1 and 2.

REFERENCES

Beyers, S. C., E. L. Mills, and P. L. Stewart. 1978. A comparison of methods of determining organic carbon in marine sediments, with suggestions for a standard method. Hydrobiol. 58: 43-47.

GLOSSARY

Time In: Time at which the tubes were placed in the sediment expressed in hours (PST).

Time Out: Time at which the tubes were removed from the sediment expressed in hours regardless of day change.

i.e., Time in 18.1 = 1810 PST
Time out 43.1 - 4310 PST

25-hr exposure

Station:

FRIO	Fraser River, Iona
FRRB	Fraser River, Roberts Bank
FRST	Fraser River, Steveston
FRRA	Fraser River, Roberts Bank acid wash
NA05	Nanaimo Estuary, Station 5
NA5A	Nanaimo Estuary, Station 5 acid wash
NA07	Nanaimo Estuary, Station 7
NA7A	Nanaimo Estuary, Station 7 acid wash
NA11	Nanaimo Estuary, Station 11
NA1A	Nanaimo Estuary, Station 11 acid wash
NAGO	Nanaimo Estuary gravel bar ebb tide exposure-sand flat
NAGC	Nanaimo Estuary gravel bar flood tide exposure-sand flat
NAGE	Nanaimo Estuary gravel bar in an ell grass bed
NAGS	Nanaimo Estuary gravel bar-sand flat

Elevation: Station elevation in CMs above chart datum.

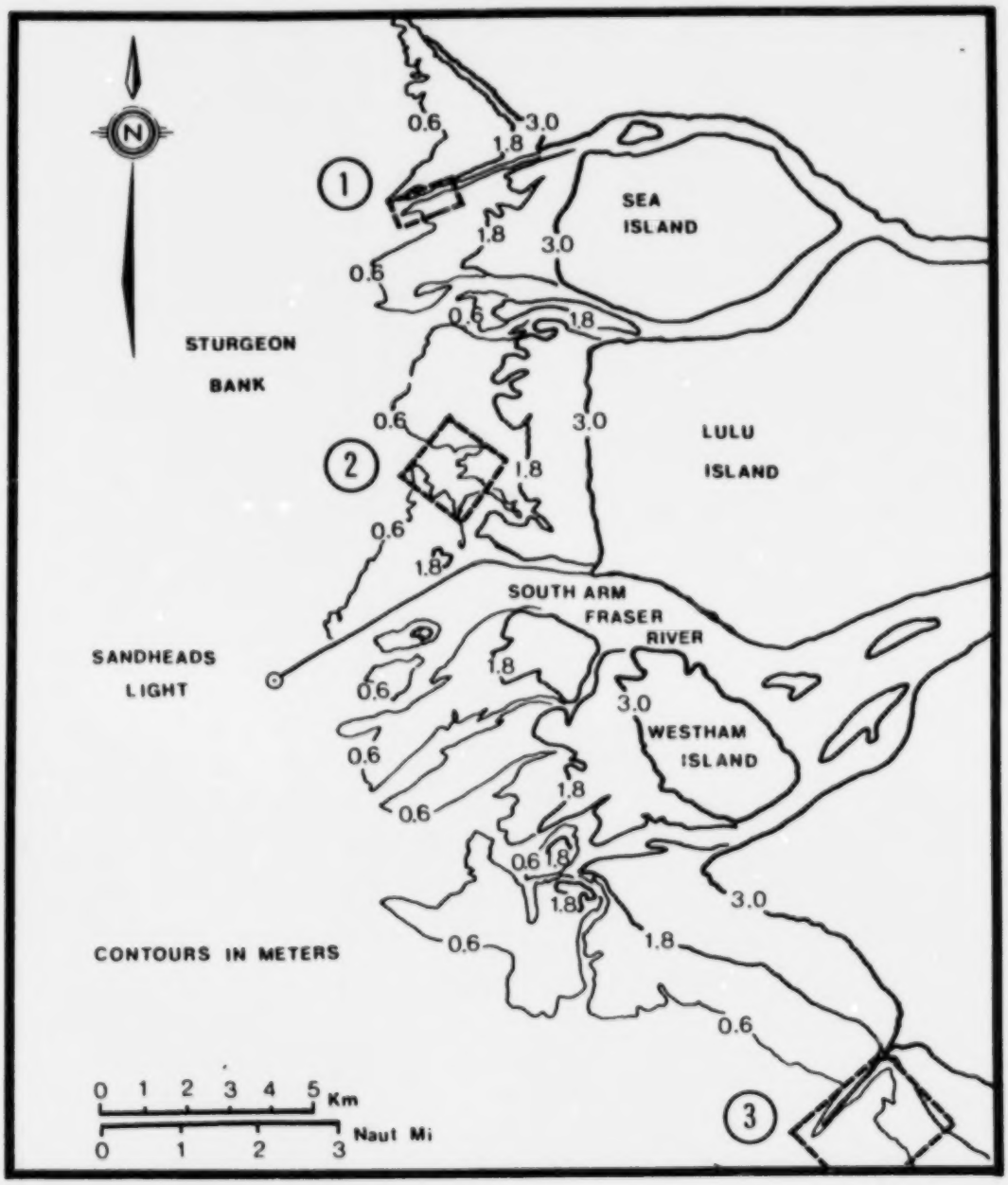

Fig. 1. Fraser River Delta showing sampling locations at Iona (1), Steveston (2), and Roberts Bank (3).

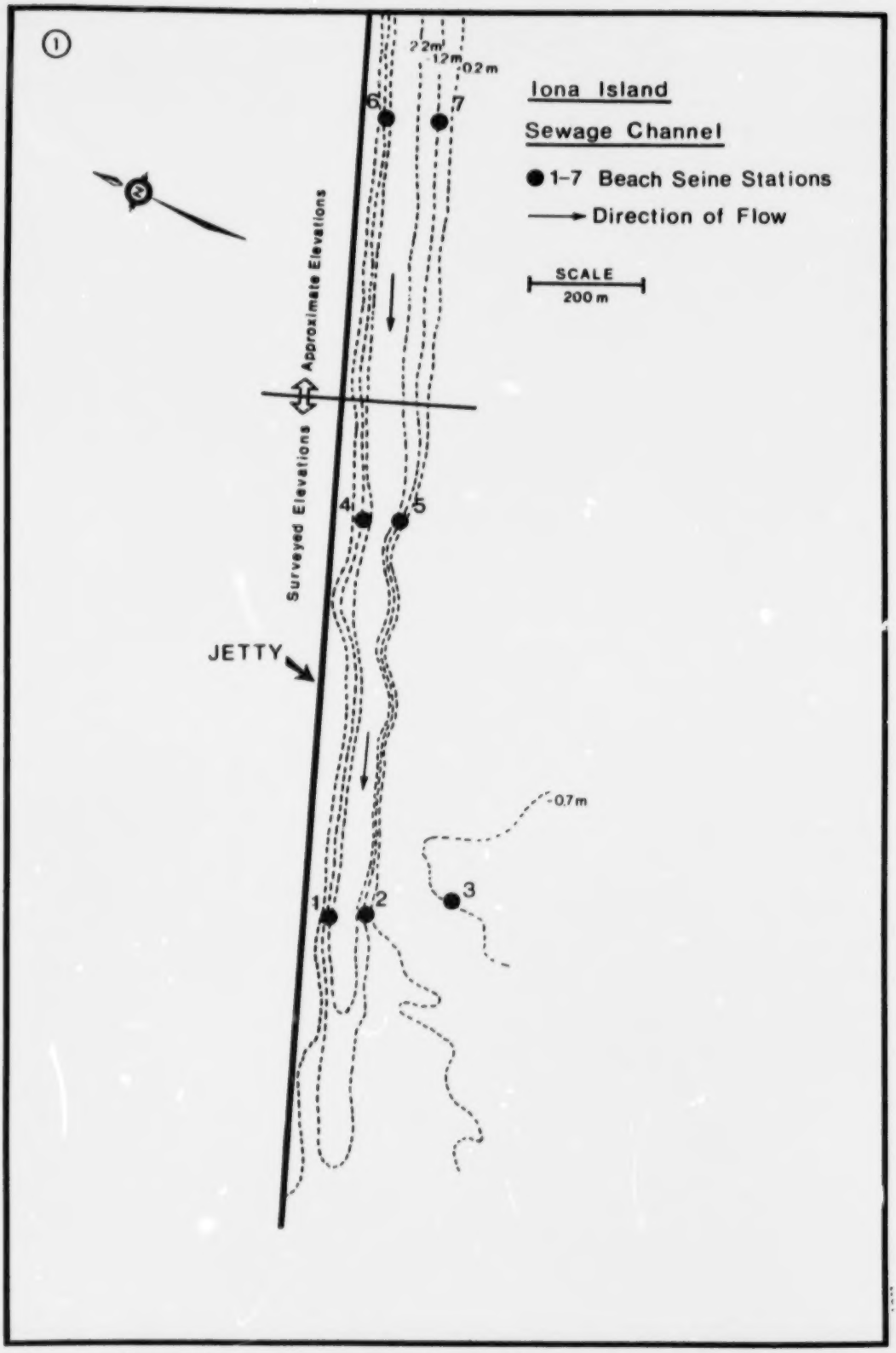

Fig. 2. Iona Island sewage channel. Sedimentation samples were taken at Station 1.

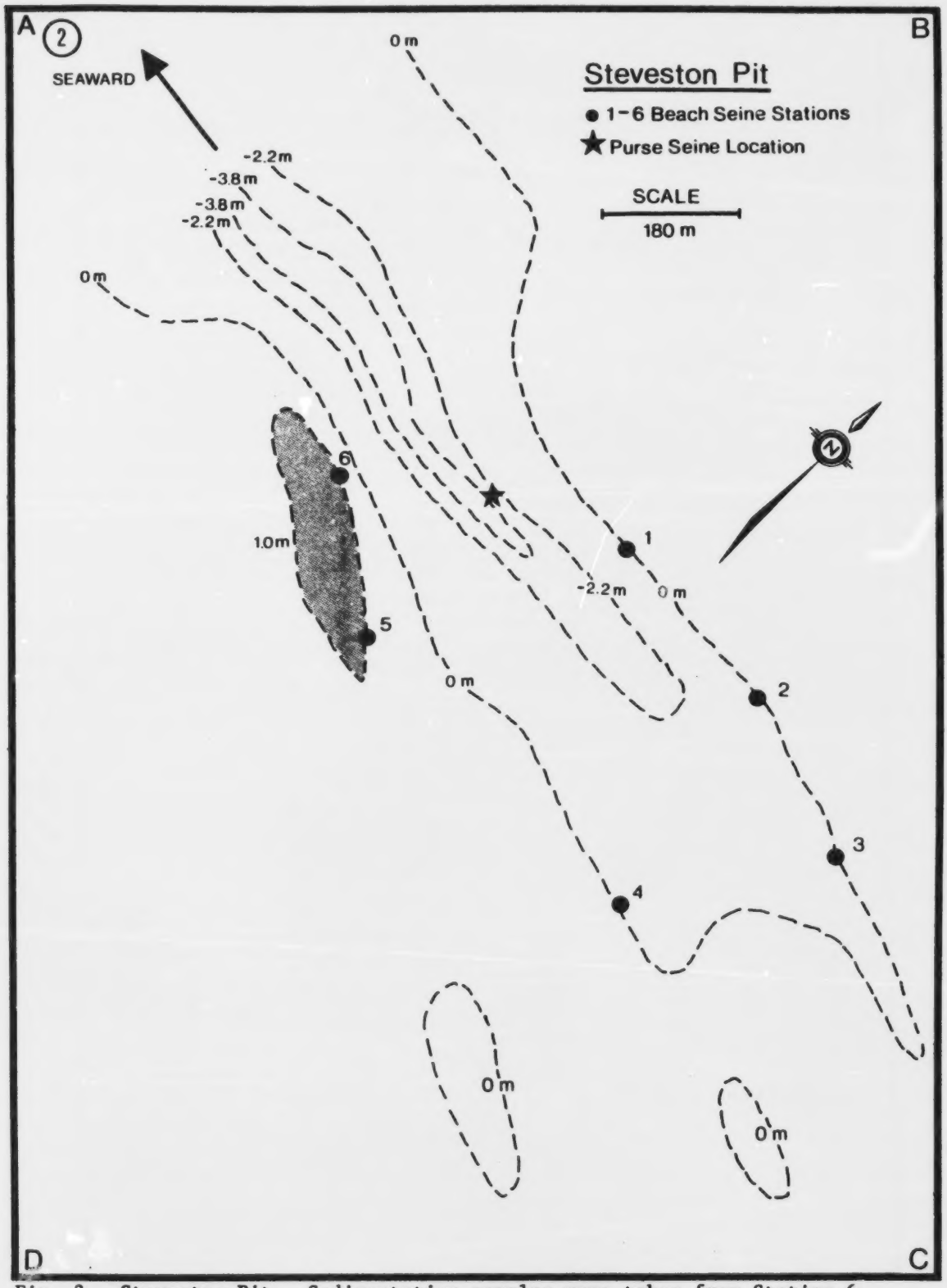

Fig. 3. Steveston Pit. Sedimentation samples were taken from Station 6.

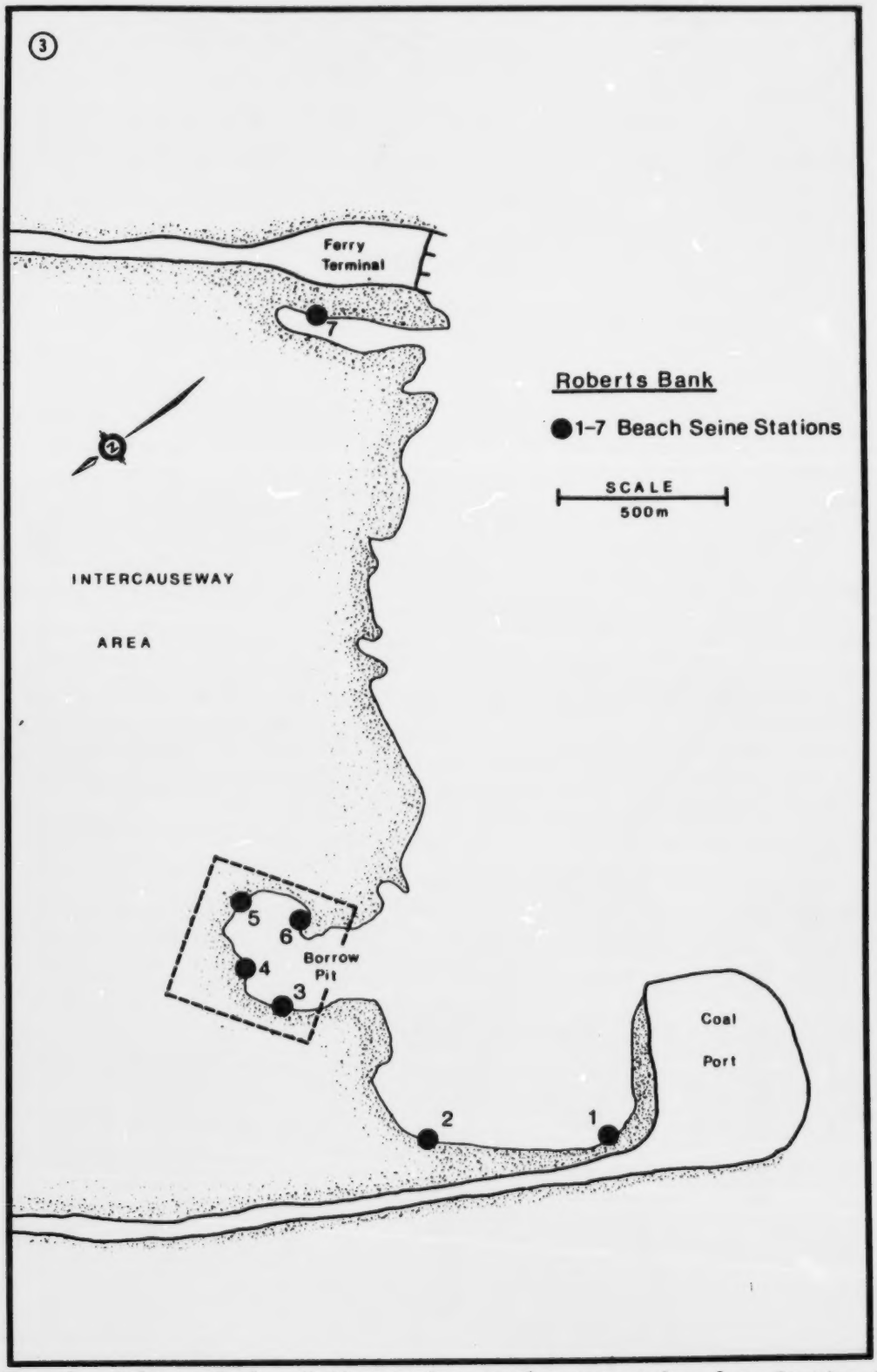

Fig. 4. Roberts Bank. Sedimentation samples were taken from Station 1.

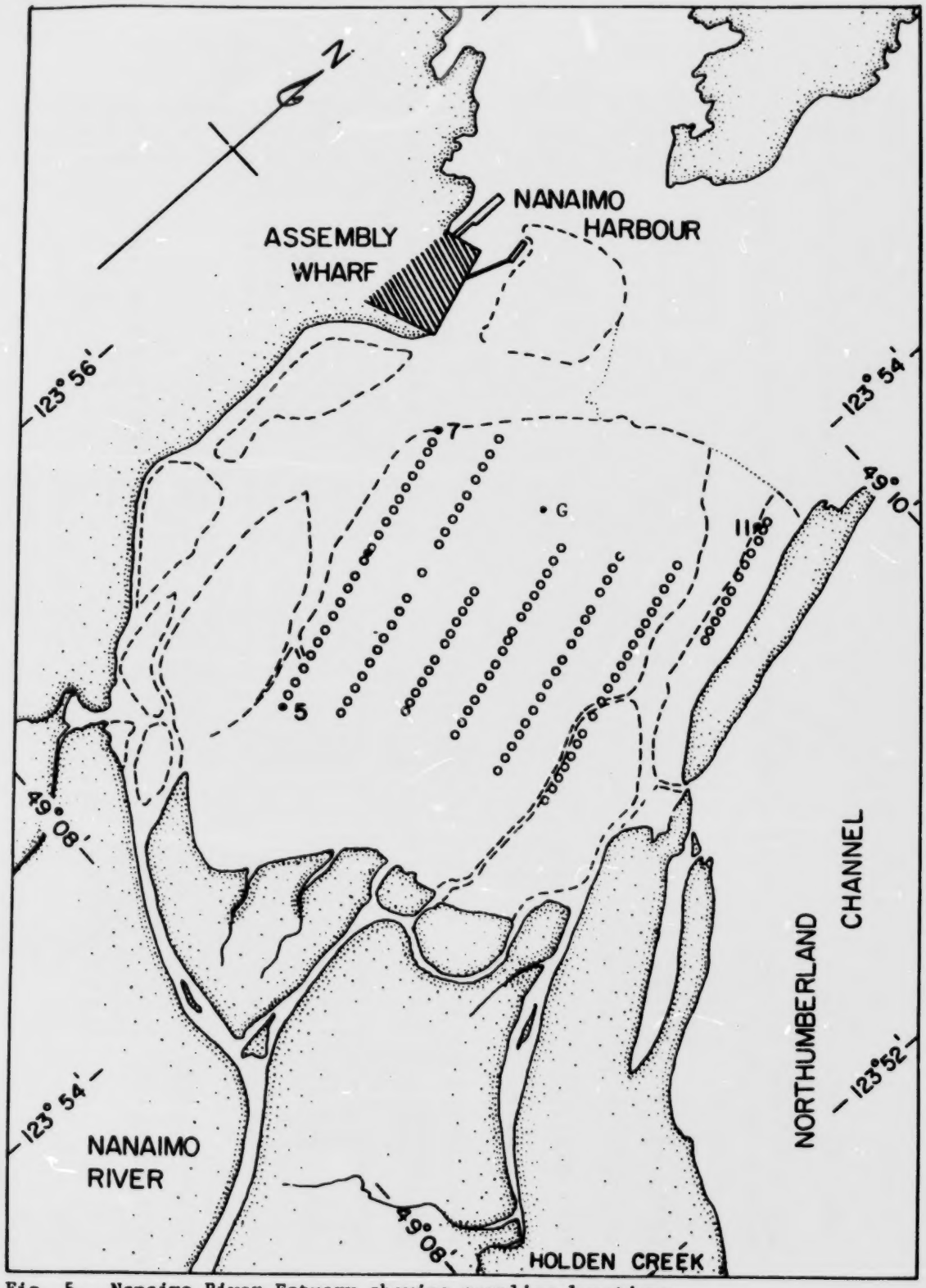

Fig. 5. Nanaimo River Estuary showing sampling locations.

Table 1. Carbon, nitrogen and total trapped sediments from the Fraser River Delta at Iona, Steveston and Roberts Bank.

DATE: 80 3 11 TIME IN: 18.1 TIME OUT: 43.1

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 136. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	21.67	205.05	1.536	0.094	16.34	4761.6	73.14	4.476
2	6.0	21.44	49.07	1.896	0.152	12.47	1152.0	21.84	1.751
3	8.0	21.32	30.36	2.306	0.191	12.07	716.7	16.53	1.369
4	16.0	20.90	13.97	2.826	0.252	11.21	336.5	9.51	0.848
5	22.0	20.64	7.80	3.017	0.297	10.16	190.2	5.74	0.565
MEANS				2.316	0.197	12.45			
STANDARD ERRORS				0.277	0.036	1.05			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 136.

	TOTAL	CARBON (G/M**2/HR)	NITROGEN (G/M**2/HR)
CO	192777.5	1256.76	46.784
RO	1.238	0.962	0.787
R	0.999	0.996	0.998
RESIDUAL	6.11	3.68	2.47

Table 1 (cont'd)

DATE: 80 3 12 TIME IN: 43.1 TIME OUT: 68.1

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 130. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	21.03	979.00	25.770	0.453	56.89	23431.6	6038.33	106.145
2	4.0	20.94	944.00	18.280	0.301	60.73	22681.5	4146.18	68.271
3	8.0	20.78	875.00	23.920	0.393	60.87	21188.0	5068.17	83.269
4	12.0	20.63	532.00	41.000	0.652	62.88	12979.9	5321.77	84.629
5	17.0	20.45	403.00	15.340	0.242	63.39	9915.4	1521.03	23.995
MEANS				24.862	0.408	60.95			
STANDARD ERRORS				4.450	0.071	1.15			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 130.

	TOTAL	CARBON	NITROGEN
C0	83647.3	21247.09	421.802
R0	0.372	0.391	0.436
R	0.876	0.638	0.678
RESIDUAL	0.46	0.51	0.63

Table 1 (cont'd)

DATE: 80 4 15 TIME IN: 11.5 TIME OUT: 36.4

STATION: FR ST ELEVATION: 125. CM MEAN WATER DEPTH: 181. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	22.30	535.28	0.175	0.002	87.50	12081.0	21.14	0.242
2	3.5	22.20	117.41	0.288	0.010	28.80	2662.0	7.67	0.266
3	7.0	22.05	59.54	0.233	0.009	25.89	1358.6	3.17	0.122
4	14.0	21.77	31.86	0.272	0.010	27.20	736.5	2.00	0.074
MEANS				0.242	0.008	42.35			
STANDARD ERRORS				0.025	0.002	15.06			
						C0	122195.1	169.49	0.861
						R0	1.037	0.895	0.451
						R	0.996	0.995	0.862
						RESIDUAL	4.31	3.21	0.82

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 181.

Table 1 (cont'd)

DATE: 80 4 17 TIME IN: 13.1 TIME OUT: 37.9

STATION: FR IU ELEVATION: 180. CM MEAN WATER DEPTH: 133. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	21.12	44.81	2.077	0.127	16.35	1067.7	22.18	1.356
2	2.0	21.11	22.92	2.919	0.195	14.97	546.5	15.95	1.066
3	6.0	21.05	5.66	1.735	0.137	12.66	135.2	2.35	0.185
4	8.0	21.02	4.28	1.981	0.169	11.72	102.5	2.03	0.173
5	14.0	20.94	4.37	1.197	0.098	12.21	105.0	1.26	0.103
MEANS				1.982	0.145	13.58			
STANDARD ERRORS				0.280	0.017	0.89			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 133.

	CATCH RATES TOTAL	CATCH RATES CARBON	CATCH RATES NITROGEN
C0	8613.3	367.95	17.165
R0	0.941	1.154	1.032
R	0.971	0.982	0.981
RESIDUAL	4.38	6.59	5.26

Table 1 (cont'd)

DATE: 80 4 18 TIME IN: 12.4 TIME OUT: 37.1

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 110. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	19.93	371.80	4.594	0.135	34.03	9388.7	431.32	12.675
2	1.0	19.92	128.60	6.273	0.226	27.76	3249.4	203.84	7.344
3	4.0	19.84	47.84	2.490	0.065	38.31	1213.3	30.21	0.789
4	7.0	19.77	18.57	2.014	0.056	35.96	472.7	9.52	0.265
5	14.0	19.60	2.07	4.166	0.189	22.04	53.1	2.21	0.100
MEANS				3.907	0.134	31.62			
STANDARD ERRORS				0.766	0.033	2.97			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 110.

	TOTAL	CARBON	NITROGEN
C0	92214.4	6080.24	164.854
R0	1.332	1.510	1.459
R	0.961	0.994	0.996
RESIDUAL	14.42	18.53	17.30

Table 1 (cont'd)

DATE: 80 5 15 TIME IN: 11.9 TIME OUT: 36.6

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 122. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	20.01	24.43	1.200	0.094	12.77	614.6	7.37	0.578
2	2.0	19.98	19.25	1.961	0.161	12.18	484.9	9.51	0.781
3	2.5	19.97	17.61	1.272	0.098	12.98	443.9	5.65	0.435
4	6.0	19.88	8.93	1.409	0.126	11.18	226.2	3.19	0.285
5	12.0	19.73	10.27	1.053	0.095	11.08	261.8	2.76	0.249
MEANS				1.379	0.115	12.04			
STANDARD ERRORS				0.156	0.013	0.39			
ROUSE EQUATION: FITS						C0	1491.5	27.07	1.804
XO = 0.10						R0	0.389	0.474	0.411
A(2) = DEPTH = 122.						R	0.924	0.898	0.868
						RESIDUAL	0.62	0.91	0.69

Table 1 (cont'd)

DATE: 80 5 14 TIME IN: 25.2 TIME OUT: 60.4

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 108. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	27.73	200.25	12.813	0.271	47.28	3633.8	465.60	9.848
2	4.0	27.63	79.68	8.947	0.212	42.20	1451.4	129.85	3.077
3	5.0	27.59	68.56	6.372	0.160	39.83	1250.4	79.67	2.001
4	8.0	27.49	19.38	8.719	0.233	37.42	354.8	30.94	0.827
5	14.0	27.28	4.18	8.435	0.298	28.31	77.2	6.51	0.230
MEANS				9.057	0.235	39.01			
STANDARD ERRORS				1.045	0.024	3.13			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 108.

	TOTAL	CARBON	NITROGEN
CO	130907.42	1446.37	288.408
RO	1.335	1.494	1.325
R	0.924	0.964	0.968
RESIDUAL	7.60	9.51	7.48

Table 1 (cont'd)

DATE: 80 6 27 TIME IN: 10.1 TIME OUT: 34.8

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 127. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	20.54	14.81	2.984	0.245	12.18	362.9	10.83	0.889
2	3.0	20.51	6.63	2.341	0.221	10.59	162.8	3.81	0.360
3	5.0	20.48	5.29	1.451	0.139	10.44	129.9	1.89	0.181
4	6.0	20.47	4.80	1.229	0.127	9.68	118.1	1.45	0.150
5	14.0	20.35	7.67	0.563	0.055	10.24	189.7	1.07	0.104
MEANS				1.714	0.157	10.62			
STANDARD ERRORS				0.426	0.034	0.42			
ROUSE EQUATION: FITS						C0	440.9	34.56	2.637
XO = 0.10						RO	0.251	0.710	0.652
A(2) = DEPTH = 127.						R	0.724	0.981	0.982
						RESIDUAL	0.41	3.29	2.77

Table 1 (cont'd)

DATE: 80 6 28 TIME IN: 10.8 TIME OUT: 35.3

STATION: FR ST ELEVATION: 125. CM MEAN WATER DEPTH: 181. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	22.20	173.60	0.136	0.010	13.60	3934.6	5.35	0.393
2	5.0	22.07	122.50	0.210	0.019	11.05	2792.6	5.86	0.531
3	7.0	21.99	114.96	0.198	0.016	12.37	2631.0	5.21	0.421
4	9.0	21.76	65.73	0.219	0.017	12.88	1520.2	3.33	0.258
5	12.0	21.70	42.99	0.221	0.017	13.00	996.8	2.20	0.169
MEANS				0.197	0.016	12.58			
STANDARD ERRORS				0.016	0.002	0.43			
ROUSE EQUATION: FITS									
						C0	36912.6	24.18	1.806
XO = 0.10						R0	0.691	0.428	0.413
A(2) = DEPTH = 181.						R	0.904	0.736	0.649
						RESIDUAL	0.97	0.37	0.34

Table 1 (cont'd)

DATE: 80 6 29 TIME IN: 11.3 TIME OUT: 36.0

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 110. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	18.92	28.93	12.393	0.622	19.92	769.7	95.39	4.788
2	2.5	18.86	23.47	11.123	0.698	15.94	626.1	69.65	4.370
3	5.0	18.79	2.09	11.634	0.709	16.41	56.0	6.52	0.397
4	8.0	18.71	1.59	13.079	1.055	12.40	42.7	5.58	0.450
5	10.0	18.66	0.67	9.570	0.694	13.79	18.2	1.74	0.126
MEANS				11.560	0.756	15.69			
STANDARD ERRORS				0.598	0.076	1.28			
ROUSE EQUATION: FITS						C0	9407.7	1232.96	49.632
X0 = 0.10						R0	1.223	1.260	1.128
A(2) = DEPTH = 110.						R	0.899	0.901	0.872
						RESIDUAL	9.20	9.76	7.83

Table 1 (cont'd)

DATE: 80 9 5 TIME IN: 7.6 TIME OUT: 32.9

STATION: FR IU ELEVATION: 180. CM MEAN WATER DEPTH: 126. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	22.28	8.12	1.851	0.169	10.95	183.4	3.39	0.310
2	4.0	22.24	5.42	2.048	0.160	12.80	122.7	2.51	0.196
3	8.0	22.16	3.99	1.745	0.123	14.19	90.7	1.58	0.112
4	12.0	22.09	4.39	1.099	0.096	11.45	100.1	1.10	0.096
5	18.0	21.97	2.35	0.912	0.081	11.26	53.8	0.49	0.044
MEANS				1.531	0.126	12.13			
STANDARD ERRORS				0.222	0.017	0.60			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 126.

	TOTAL	CARBON	NITROGEN
CO	704.1	41.93	3.521
RO	0.451	0.780	0.783
R	0.938	0.960	0.977
RESIDUAL	0.70	2.10	2.12

Table 1 (cont'd)

DATE: 80 9 6 TIME IN: 8.4 TIME OUT: 33.3

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 107. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	3.0	20.00	53.53	9.714	0.259	37.51	1346.7	130.81	3.488
2	8.0	19.83	9.91	15.403	0.491	31.37	251.5	38.74	1.235
3	12.0	19.68	4.25	10.096	0.419	24.10	108.7	10.98	0.456
4	18.0	19.47	1.02	10.888	0.551	19.76	26.4	2.88	0.146
MEANS				11.525	0.430	28.18			
STANDARD ERRORS				1.315	0.063	3.92			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 107.

	TOTAL	CARBON	NITROGEN
C	01258944.1********		1006.768
RO	1.953	1.919	1.591
R	0.989	0.972	0.973
RESIDUAL	7.91	7.64	5.25

Table 1 (cont'd)

DATE: 80 9 24 TIME IN: 10.2 TIME OUT: 35.0

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 94. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	2.0	20.32	2.88	7.169	0.703	10.20	71.3	5.11	0.501
2	3.0	20.29	2.96	5.808	0.369	15.74	73.5	4.27	0.271
3	8.0	19.80	1.09	1.533	0.172	8.91	27.7	0.42	0.048
4	10.0	19.52	0.59	6.242	1.424	4.38	15.3	0.96	0.218
5	13.0	19.09	0.38	3.689	0.784	4.71	10.1	0.37	0.079
MEANS				4.888	0.690	8.79			
STANDARD ERRORS				1.014	0.214	2.08			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 94.

	TOTAL	CARBON (G/M**2/HR)	NITROGEN
CO	1842.9	339.60	5.177
RO	1.001	1.353	0.839
R	0.966	0.937	0.758
RESIDUAL	2.97	5.44	2.09

Table 1 (cont'd)

DATE: 80 9 24 TIME IN: 10.2 TIME OUT: 35.0

STATION: FR RA ELEVATION: 200. CM MEAN WATER DEPTH: 94. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	20.32	2.88	6.638	0.671	9.89	71.3	4.73	0.478
2	3.0	20.29	2.96	5.541	0.239	23.18	73.5	4.07	0.176
3	8.0	19.80	1.09	1.424	0.170	8.38	27.7	0.39	0.047
4	10.0	19.52	0.59	4.840	1.151	4.21	15.3	0.74	0.176
5	13.0	19.09	0.38	2.835	0.591	4.80	10.1	0.29	0.060
MEANS				4.256	0.564	10.09			
STANDARD ERRORS				0.941	0.176	3.44			
ROUSE EQUATION: FITS						C0	1842.9	439.75	4.393
XO = 0.10						RO	1.001	1.450	0.847
A(2) = DEPTH = 94.						R	0.966	0.955	0.779
						RESIDUAL	2.97	6.25	2.13

Table 1 (cont'd)

DATE: 80 9 24 TIME IN: 9.3 TIME OUT: 34.2

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 114. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	4.0	21.89	5.32	1.115	0.089	12.53	122.3	1.36	0.109
2	5.0	21.87	3.33	1.369	0.125	10.95	76.6	1.05	0.096
3	8.0	21.82	3.75	1.383	0.117	11.82	86.5	1.20	0.101
4	15.0	20.53	3.18	0.990	0.085	11.65	77.9	0.77	0.066
MEANS				1.214	0.104	11.74			
STANDARD ERRORS				0.097	0.010	0.32			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 114.

	TOTAL	CARBON	NITROGEN
CO	219.3	4.45	0.354
RO	0.208	0.330	0.314
R	0.605	0.853	0.895
RESIDUAL	0.05	0.13	0.12

Table 1 (cont'd)

DATE: 80 10 29 TIME IN: 2.1 TIME OUT: 27.1

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 102. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	19.33	4.31	20.866	0.828	25.20	112.2	23.41	0.929
2	6.0	19.17	1.78	16.765	0.990	16.93	46.8	7.85	0.463
3	8.0	19.10	1.04	18.033	0.993	18.16	27.5	4.96	0.273
4	12.0	18.95	1.15	17.690	0.931	19.00	30.6	5.41	0.285
5	16.0	18.82	0.09	12.666	0.694	18.25	2.3	0.29	0.016
MEANS				17.204	0.887	19.51			
STANDARD ERRORS				1.325	0.057	1.46			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 102.

	TOTAL	CARBON	NITROGEN
C0	11241.9	4026.76	116.118
R0	1.400	1.571	1.436
R	0.833	0.833	0.798
RESIDUAL	5.78	7.28	6.09

Table 1 (cont'd)

DATE: 80 10 30 TIME IN: 3.1 TIME OUT: 27.9

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 122. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	20.09	6.27	1.472	0.123	11.97	157.0	2.31	0.193
2	4.0	20.02	5.05	2.404	0.223	10.78	127.1	3.06	0.283
3	7.0	19.90	3.58	1.223	0.096	12.74	90.5	1.11	0.087
4	10.0	19.79	2.02	1.773	0.147	12.06	51.4	0.91	0.075
5	18.0	19.48	2.88	0.947	0.080	11.84	74.4	0.70	0.060
MEANS				1.564	0.134	11.88			
STANDARD ERRORS				0.250	0.025	0.32			
						CO	525.3	18.84	1.693
						RO	0.411	0.620	0.635
						R	0.837	0.887	0.856
						RESIDUAL	0.54	1.24	1.30

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 122.

Table 1 (cont'd)

DATE: 80 10 30 TIME IN: 3.1 TIME OUT: 27.9

STATION: FR ST ELEVATION: 125. CM MEAN WATER DEPTH: 177. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	24.35	263.00	0.118	0.007	16.86	5435.7	6.41	0.381
2	4.0	24.28	35.08	0.117	0.009	13.00	727.1	0.85	0.065
3	6.0	22.29	25.10	0.114	0.008	14.25	566.7	0.65	0.045
4	9.0	22.14	19.78	0.086	0.005	17.20	449.5	0.39	0.022
5	14.0	21.90	12.32	0.124	0.008	15.50	283.2	0.35	0.023
MEANS				0.112	0.007	15.36			
STANDARD ERRORS				0.007	0.001	0.79			
RUUSE EQUATION: FITS						C0	55283.6	69.90	4.376
X0 = 0.10						R0	1.081	1.114	1.103
A(2) = DEPTH = 177.						R	0.982	0.980	0.995
						RESIDUAL	5.02	5.34	5.23

Table 1 (cont'd)

DATE: 80 12 11 TIME IN: 24.8 TIME OUT: 49.4

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 143. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.30 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	18.81	90.03	2.904	0.204	14.24	2408.1	69.93	4.912
2	7.0	18.71	15.89	2.043	0.129	15.84	427.5	8.73	0.551
3	8.0	18.69	14.05	2.313	0.158	14.64	378.3	8.75	0.598
4	14.0	18.57	5.24	2.879	0.224	12.85	141.9	4.09	0.318
5	20.0	18.45	4.11	2.788	0.241	11.57	112.3	3.13	0.271
MEANS				2.585	0.191	13.83			
STANDARD ERRORS				0.173	0.021	0.74			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 143.

	TOTAL	CARBON	NITROGEN
C0	117041.9	2964.00	149.366
R0	1.239	1.297	1.214
R	0.996	0.988	0.971
RESIDUAL	5.82	5.80	5.08

Table 1 (cont'd)

DATE: 80 12 9 TIME IN: 0.3 TIME OUT: 24.0

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 123. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.30 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	6.0	18.59	37.29	8.839	0.706	12.52	1009.4	89.22	7.126
2	8.0	18.53	27.06	10.914	1.133	9.63	734.7	80.19	8.324
3	13.0	18.39	18.76	14.056	1.738	8.09	513.3	72.16	8.922
4	16.5	18.29	8.60	16.284	2.241	7.27	236.6	38.53	5.303
5	20.0	18.19	6.85	16.644	2.338	7.12	189.6	31.56	4.434
MEANS				13.347	1.631	8.93			
STANDARD ERRORS				1.521	0.315	1.00			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 123.

	TOTAL	CARBON	NITROGEN
C0	203129.6	2472.60	38.372
R0	1.261	0.774	0.363
R	0.971	0.916	0.672
RESIDUAL	1.95	0.73	0.16

Table 1 (cont'd)

DATE: 81 1 19 TIME IN: 22.9 TIME OUT: 47.6

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 162. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	0.5	20.09	25.53	1.624	0.066	24.61	639.6	10.39	0.422
2	1.5	20.06	21.78	0.850	0.047	18.09	546.4	4.64	0.257
3	2.5	20.04	14.77	0.903	0.046	19.63	371.1	3.35	0.171
4	7.0	19.92	9.12	1.002	0.061	16.43	230.3	2.31	0.141
5	9.0	19.87	11.31	0.875	0.040	21.88	286.6	2.51	0.115
6	20.0	19.50	5.01	0.804	0.056	14.36	128.8	1.04	0.072
MEANS				1.010	0.053	19.16			
STANDARD ERRORS				0.126	0.004	1.52			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 162.

	TOTAL	CARBON (G/M**2/HR)	NITROGEN
C0	1412.4	22.66	0.835
R0	0.407	0.542	0.443
R	0.956	0.976	0.989
RESIDUAL	1.59	2.82	1.88

Table 1 (cont'd)

DATE: 81 1 20 TIME IN: 47.6 TIME OUT: 72.4

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 142. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	3.0	18.71	272.30	2.565	0.045	57.00	7322.9	187.83	3.295
2	5.5	18.65	159.60	2.188	0.038	57.58	4307.2	94.24	1.637
3	6.0	18.63	102.80	2.480	0.038	65.26	2776.3	68.85	1.055
4	7.0	18.61	103.14	2.123	0.045	47.18	2789.4	59.22	1.255
5	14.0	18.42	26.78	2.106	0.038	55.42	731.4	15.40	0.278
6	16.0	18.37	19.35	2.050	0.038	53.95	530.1	10.87	0.201
MEANS				2.252	0.040	56.06			
STANDARD ERRORS				0.088	0.001	2.39			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 142.

C	01631539.360	738.23	915.415
RO	1.524	1.640	1.600
R	0.987	0.993	0.986
RESIDUAL	5.10	5.91	5.62

Table 1 (cont'd)

DATE: 81 2 16 TIME IN: 22.0 TIME OUT: 45.8

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 110. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	4.0	20.63	543.90	14.670	0.210	69.86	13234.9	1941.56	27.793
2	6.0	20.64	330.80	12.400	0.188	65.96	8066.1	1000.20	15.164
3	6.0	20.64	330.50	18.840	0.268	70.30	8058.8	1518.28	21.598
4	11.0	20.53	130.60	14.150	0.205	69.02	3201.1	452.95	6.562
5	15.0	20.45	73.20	13.010	0.206	63.16	1801.7	234.40	3.711
MEANS				14.614	0.215	67.66			
STANDARD ERRORS				1.130	0.014	1.36			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 110.

C0	2618379.5********		6780.950
R0	1.403	1.499	1.446
R	0.998	0.981	0.984
RESIDUAL	2.59	2.96	2.76

Table 1 (cont'd)

DATE: 81 3 3 TIME IN: 21.7 TIME OUT: 46.4

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 133. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.5	20.37	240.00	2.634	0.145	18.17	5930.6	156.21	8.599
2	5.5	20.26	143.80	2.714	0.157	17.29	3571.4	96.93	5.607
3	7.0	20.21	104.40	2.735	0.175	15.63	2599.3	71.09	4.549
4	8.0	20.18	77.40	3.402	0.201	16.93	1930.3	65.67	3.880
5	9.0	20.15	73.90	2.627	0.162	16.22	1846.1	48.50	2.991
6	12.0	20.04	47.80	3.267	0.192	17.02	1200.1	39.21	2.304
MEANS				2.896	0.172	16.87			
STANDARD ERRORS				0.141	0.009	0.36			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 133.

	TOTAL	CARBON	NITROGEN
C0	151403.6	2694.34	125.895
R0	0.968	0.854	0.798
R	0.978	0.980	0.971
RESIDUAL	1.50	1.17	1.02

Table 1 (cont'd)

DATE: 81 3 3 TIME IN: 70.5 TIME OUT: 95.5

STATION: FR RB ELEVATION: 200. CM MEAN WATER DEPTH: 110. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	4.0	20.04	70.10	19.420	0.304	63.88	1760.8	341.94	5.353
2	7.0	19.95	22.15	14.280	0.227	62.91	558.7	79.79	1.268
3	10.0	19.86	9.38	15.210	0.274	55.51	237.7	36.15	0.651
4	12.5	19.79	4.76	11.340	0.255	44.47	121.1	13.73	0.309
5	16.0	19.69	1.54	12.030	0.308	39.06	39.4	4.73	0.121
6	17.0	19.67	2.14	11.930	0.369	32.33	54.7	6.52	0.202
MEANS				14.035	0.289	49.69			
STANDARD ERRORS				1.240	0.020	5.33			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 110.

C0	**********	**********	24022.398
R0	2.373	2.680	2.265
R	0.989	0.991	0.987
RESIDUAL	10.17	12.98	9.27

Table 1 (cont'd)

DATE: 81 5 5 TIME IN: 11.5 TIME OUT: 61.8

STATION: FR IO ELEVATION: 125. CM MEAN WATER DEPTH: 181. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	41.54	42.92	3.173	0.180	17.63	519.9	16.50	0.936
2	3.5	41.42	41.67	1.888	0.109	17.32	506.3	9.56	0.552
3	5.5	41.32	28.12	1.751	0.113	15.50	342.5	6.00	0.387
4	7.0	41.24	25.02	1.440	0.094	15.32	305.3	4.40	0.287
5	11.0	41.04	17.69	2.107	0.137	15.38	216.9	4.57	0.297
6	13.0	40.94	14.96	1.732	0.127	13.64	183.9	3.19	0.234
MEANS				2.015	0.127	15.80			
STANDARD ERRORS				0.248	0.012	0.60			
ROUSE EQUATION: FITS						C0	1590.8	70.96	3.205
	XO = 0.10					R0	0.401	0.609	0.523
	A(2) = DEPTH = 181.					R	0.902	0.973	0.979
						RESIDUAL	0.74	1.70	1.26

Table 1 (cont'd)

DATE: 81 5 5 TIME IN: 12.0 TIME OUT: 37.0

STATION: FR ST ELEVATION: 125. CM MEAN WATER DEPTH: 181. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	2.0	20.82	310.00	0.201	0.011	18.27	7492.9	15.06	0.824
2	2.0	20.82	298.50	0.105	0.004	26.25	7215.0	7.58	0.289
3	4.0	20.77	131.83	0.174	0.007	24.86	3194.3	5.56	0.224
4	4.0	20.77	97.62	0.224	0.008	28.00	2365.4	5.30	0.189
5	5.0	20.74	82.34	0.162	0.007	23.14	1997.6	3.24	0.140
6	6.0	20.72	50.83	0.158	0.004	39.50	1234.7	1.95	0.049
MEANS				0.171	0.007	26.67			
STANDARD ERRORS				0.017	0.001	2.90			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 181.

C0	690077.3	682.21	90.798
R0	1.503	1.358	1.703
R	0.986	0.916	0.876
RESIDUAL	2.53	2.07	3.25

Table 1 (cont'd)

DATE: 81 6 1 TIME IN: 10.0 TIME OUT: 60.3

STATION: FR IO ELEVATION: 180. CM MEAN WATER DEPTH: 133. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	39.12	48.46	2.266	0.172	13.17	623.4	14.13	1.072
2	4.5	38.93	25.30	1.585	0.119	13.32	327.0	5.18	0.389
3	8.0	38.76	24.71	1.482	0.116	12.78	320.9	4.76	0.372
4	9.5	38.69	18.86	1.513	0.111	13.63	245.3	3.71	0.272
5	13.0	38.53	15.12	1.676	0.126	13.30	197.5	3.31	0.249
6	17.0	38.34	14.40	1.437	0.105	13.69	189.0	2.72	0.198
MEANS				1.660	0.125	13.31			
STANDARD ERRORS				0.126	0.010	0.14			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 133.

	TOTAL	CARBON	NITROGEN
CO	1611.3	47.43	3.695
RO	0.404	0.542	0.550
R	0.977	0.990	0.986
RESIDUAL	0.93	1.67	1.72

Table 1 (cont'd)

DATE: 81 6 1 TIME IN: 35.5 TIME OUT: 59.5

STATION: FR ST ELEVATION: 125. CM MEAN WATER DEPTH: 181. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	4.0	20.65	285.84	0.209	0.010	20.90	6966.6	14.56	0.697
2	5.5	20.61	177.63	0.141	0.013	10.85	4337.0	6.12	0.564
3	7.0	20.57	183.62	0.292	0.017	17.18	4491.2	13.11	0.764
4	10.0	20.50	137.95	0.309	0.015	20.60	3386.2	10.46	0.508
5	12.0	20.45	87.85	0.181	0.014	12.93	2161.5	3.91	0.303
6	22.0	20.21	37.66	0.208	0.046	4.52	937.8	1.95	0.431
MEANS				0.223	0.019	14.50			
STANDARD ERRORS				0.026	0.005	2.59			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 181.

C0	378585.9	634.74	2.578
R0	1.063	1.007	0.355
R	0.975	0.829	0.678
RESIDUAL	2.35	2.11	0.26

Table 2. Carbon, nitrogen and total trapped sediments from the Nanaimo River Delta at Stations 5, 7, 11, and G.

DATE: 79 6 7 TIME IN: 10.3 TIME OUT: 35.0

STATION: NA 07 ELEVATION: 122. CM MEAN WATER DEPTH: 170. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	5.1	22.58	11.15	1.051	0.241	4.36	248.6	2.61	0.599
2	8.9	22.37	0.82	1.087	0.241	4.51	18.4	0.20	0.044
3	10.2	22.31	8.81	1.216	0.218	5.58	198.8	2.42	0.433
4	14.0	22.10	1.52	2.052	0.288	7.13	34.6	0.71	0.100
MEANS				1.352	0.247	5.39			
STANDARD ERRORS				0.236	0.015	0.64			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 170.

	TOTAL	CARBON	NITROGEN
CO	95332.2	94.08	135.716
RO	1.570	1.004	1.450
R	0.543	0.368	0.525
RESIDUAL	1.46	0.60	1.24

Table 2 (cont'd)

DATE: 79 6 7 TIME IN: 10.3 TIME OUT: 35.0

STATION: NA 7A ELEVATION: 122. CM MEAN WATER DEPTH: 170. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	5.1	22.58	11.15	0.656	0.047	13.96	248.6	1.63	0.117
2	8.9	22.37	0.82	0.705	0.050	14.10	18.4	0.13	0.009
3	10.2	22.31	8.81	0.863	0.048	17.98	198.8	1.72	0.095
4	14.0	22.10	1.52	1.616	0.098	16.49	34.6	0.56	0.034
MEANS				0.960	0.061	15.63			
STANDARD ERRORS				0.223	0.012	0.97			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 170.

	TOTAL	CARBON (G/M**2/HR)	NITROGEN
CO	95332.2	24.55	3.741
RO	1.570	0.790	0.980
R	0.543	0.290	0.374
RESIDUAL	1.46	0.37	0.57

Table 2 (cont'd)

DATE: 79 6 7 TIME IN: 10.3 TIME OUT: 35.0

STATION: NA 05 ELEVATION: 244. CM MEAN WATER DEPTH: 48. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	10.2	17.58	1.00	6.620	0.581	11.39	28.6	1.89	0.166
2	16.4	17.31	0.39	8.405	0.881	9.54	11.3	0.95	0.099
3	19.1	17.29	0.20	7.765	0.713	10.89	5.9	0.46	0.042
MEANS				7.597	0.725	10.61			
STANDARD ERRORS				0.522	0.087	0.55			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 48.

	TOTAL	CARBON	NITROGEN
C0	39172.9	873.62	42.959
R0	1.481	1.257	1.137
R	0.937	0.890	0.823
RESIDUAL	1.10	0.79	0.65

Table 2 (cont'd)

DATE: 79 6 27 TIME IN: 13.1 TIME OUT: 37.6

STATION: NA 05 ELEVATION: 244. CM MEAN WATER DEPTH: 54. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	7.6	17.57	4.58	7.270	0.328	22.16	131.2	9.54	0.430
2	10.2	17.49	0.54	5.098	0.383	13.31	15.5	0.79	0.060
3	17.8	17.23	0.36	6.682	0.625	10.69	10.5	0.70	0.066
MEANS				6.350	0.445	15.39			
STANDARD ERRORS				0.649	0.091	3.47			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 54.

C0	626166.64	0943.19	138.259
R0	2.019	2.027	1.422
R	0.834	0.773	0.716
RESIDUAL	2.57	2.59	1.27

Table 2 (cont'd)

DATE: 79 6 27 TIME IN: 13.1 TIME OUT: 37.6

STATION: NA 07 ELEVATION: 122. CM MEAN WATER DEPTH: 176. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.3	23.09	7.22	1.609	0.199	8.09	157.4	2.53	0.313
2	7.6	22.95	2.58	1.465	0.194	7.55	56.6	0.83	0.110
3	12.7	22.83	4.67	0.666	0.200	3.33	102.9	0.69	0.206
4	15.2	22.78	15.18	0.560	0.236	2.37	335.4	1.88	0.791
MEANS				1.075	0.207	5.33			
STANDARD ERRORS				0.269	0.010	1.45			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 176.

	TOTAL	CARBON	NITROGEN
C0	102.9	4.97	0.182
R0	-0.059	0.319	-0.096
R	-0.092	0.587	-0.134
RESIDUAL	0.01	0.41	0.04

Table 2 (cont'd)

DATE: 79 6 27 TIME IN: 13.1 TIME OUT: 37.6

STATION: NA 7A ELEVATION: 122. CM MEAN WATER DEPTH: 176. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.3	23.09	7.22	0.894	0.046	19.43	157.4	1.41	0.072
2	7.6	22.95	2.58	1.069	0.057	18.75	56.6	0.60	0.032
3	12.7	22.83	4.67	0.505	0.034	14.85	102.9	0.52	0.035
4	15.2	22.78	15.18	0.551	0.027	20.41	335.4	1.85	0.091
MEANS				0.755	0.041	18.36			
STANDARD ERRORS				0.136	0.007	1.22			
ROUSE EQUATION: FITS						C0	102.9	1.69	0.080
XO = 0.10						R0	-0.059	0.135	0.099
A(2) = DEPTH = 176.						R	-0.092	0.251	0.223
						RESIDUAL	0.01	0.07	0.04

Table 2 (cont'd)

DATE: 79 9 5 TIME IN: 9.3 TIME OUT: 34.2

STATION: NA 07 ELEVATION: 122. CM MEAN WATER DEPTH: 188. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.1	23.80	16.61	8.790	0.124	70.89	351.2	30.87	0.435
2	7.0	23.48	1.10	1.910	0.055	34.73	23.6	0.45	0.013
3	9.0	23.39	1.03	2.310	0.085	27.18	22.1	0.51	0.019
4	14.0	22.51	1.80	1.680	0.072	23.33	40.3	0.68	0.029
5	20.0	22.39	0.91	1.570	0.053	29.62	20.4	0.32	0.011
MEANS				3.252	0.078	37.15			
STANDARD ERRORS				1.390	0.013	8.63			

RUUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 188.

	TOTAL	CARBON	NITROGEN
C0	321.2	27.96	0.397
R0	0.521	0.842	0.654
R	0.952	0.980	0.952
RESIDUAL	5.23	13.69	8.26

Table 2 (cont'd)

DATE: 79 9 5 TIME IN: 9.3 TIME OUT: 34.2

STATION: NA 7A ELEVATION: 122. CM MEAN WATER DEPTH: 188. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.1	23.80	16.61	13.330	0.177	75.31	351.2	46.81	0.622
2	7.0	23.48	1.10	1.790	0.065	27.54	23.6	0.42	0.015
3	9.0	23.39	1.03	2.440	0.097	25.15	22.1	0.54	0.021
4	14.0	22.51	1.80	1.430	0.045	31.78	40.3	0.58	0.018
5	20.0	22.39	0.91	1.540	0.052	29.62	20.4	0.31	0.011
MEANS				4.106	0.087	37.88			
STANDARD ERRORS				2.313	0.024	9.42			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 188.

C0	321.2	42.00	0.586
R0	0.521	0.936	0.747
R	0.952	0.984	0.987
RESIDUAL	5.23	16.91	10.76

Table 2. (cont'd)

DATE: 79 9 5 TIME IN: 9.3 TIME OUT: 34.2

STATION: NA 05 ELEVATION: 244. CM MEAN WATER DEPTH: 66. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.5	18.72	1.71	9.410	0.190	49.53	46.0	4.33	0.087
2	5.0	18.63	1.52	5.120	0.176	29.09	41.0	2.10	0.072
3	10.0	18.52	0.67	5.110	0.175	29.20	18.3	0.94	0.032
4	14.0	18.30	0.45	4.930	0.177	27.85	12.5	0.61	0.022
5	20.0	17.45	0.25	6.330	0.185	34.22	7.4	0.47	0.014
MEANS				6.180	0.181	33.98			
STANDARD ERRORS				0.845	0.003	4.04			

RUUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 66.

	TOTAL	CARBON	NITROGEN
C0	341.1	41.30	0.654
R0	0.636	0.794	0.649
R	0.933	0.992	0.947
RESIDUAL	2.13	3.31	2.22

Table 2 (cont'd)

DATE: 79 9 5 TIME IN: 9.3 TIME OUT: 34.2

STATION: NA 5A ELEVATION: 244. CM MEAN WATER DEPTH: 66. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	1.5	18.72	1.71	7.120	0.159	44.78	46.0	3.28	0.073
2	5.0	18.63	1.52	4.670	0.176	26.53	41.0	1.92	0.072
3	10.0	18.52	0.67	4.350	0.166	26.20	18.3	0.80	0.030
4	14.0	18.30	0.45	5.190	0.188	27.61	12.5	0.65	0.023
MEANS				5.332	0.172	31.28			
STANDARD ERRORS				0.620	0.006	4.51			

RUUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 66.

	TOTAL	CARBON	NITROGEN
C0	236.0	23.63	0.328
R0	0.533	0.689	0.482
R	0.909	0.977	0.883
RESIDUAL	0.99	1.65	0.81

Table 2 (cont'd)

DATE: 79 12 5 TIME IN: 23.9 TIME OUT: 58.0

STATION: NA 05 ELEVATION: 244. CM MEAN WATER DEPTH: 66. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	24.16	0.34	4.930	0.236	20.89	7.0	0.35	0.017
2	2.0	24.10	0.33	4.100	0.223	18.39	6.9	0.28	0.015
3	6.0	23.94	0.21	6.261	0.240	26.09	4.5	0.28	0.011
4	8.0	23.86	0.20	6.093	0.263	23.17	4.3	0.26	0.011
MEANS				5.346	0.241	22.13			
STANDARD ERRORS				0.510	0.008	1.64			
ROUSE EQUATION: FITS						C0	10.2	0.39	0.022
XO = 0.10						RO	0.185	0.087	0.155
A(2) = DEPTH = 66.						R	0.906	0.939	0.933
						RESIDUAL	0.18	0.04	0.12

Table 2 (cont'd)

DATE: 79 12 5 TIME IN: 23.9 TIME OUT: 58.0

STATION: NA 07 ELEVATION: 122. CM MEAN WATER DEPTH: 188. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.1	29.37	2.56	9.925	0.142	69.89	43.8	4.35	0.062
2	0.5	29.35	1.93	32.370	0.374	86.55	33.1	10.71	0.124
3	3.0	29.21	0.78	7.749	0.128	60.54	13.4	1.04	0.017
4	7.0	28.98	0.52	4.219	0.104	40.57	9.1	0.38	0.009
5	16.0	28.52	0.45	2.673	0.100	26.73	8.0	0.21	0.008
MEANS				11.387	0.170	56.86			
STANDARD ERRORS				5.399	0.052	10.58			
ROUSE EQUATION: FITS						C0	48.6	9.92	0.109
XO = 0.10						R0	0.363	0.697	0.508
A(2) = DEPTH = 188.						R	0.985	0.888	0.881
						RESIDUAL	2.29	8.45	4.49

Table 2 (cont'd)

DATE: 79 12 5 TIME IN: 23.9 TIME OUT: 58.0

STATION: NA 7A ELEVATION: 122. CM MEAN WATER DEPTH: 188. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	0.1	29.37	2.56	6.833	0.098	69.72	43.8	2.99	0.043
2	0.5	29.35	1.93	29.970	0.335	89.46	33.1	9.92	0.111
3	3.0	29.21	0.78	8.274	0.129	64.14	13.4	1.11	0.017
4	7.0	28.98	0.52	7.360	0.099	74.34	9.1	0.67	0.009
MEANS				13.109	0.165	74.42			
STANDARD ERRORS				5.628	0.057	5.43			
ROUSE EQUATION: FITS						C0	49.7	6.10	0.080
XO = 0.10						RO	0.380	0.444	0.431
A(2) = DEPTH = 188.						R	0.981	0.714	0.754
						RESIDUAL	1.58	2.16	2.03

Table 2 (cont'd)

DATE: 79 12 5 TIME IN: 23.9 TIME OUT: 58.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 188. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	1.0	29.32	0.83	2.380	0.230	10.35	14.3	0.34	0.033
2	2.5	29.23	0.39	1.519	0.107	14.20	6.7	0.10	0.007
3	6.0	29.04	0.40	1.141	0.066	17.29	6.9	0.08	0.005
4	9.0	28.87	0.32	1.170	0.080	14.63	5.6	0.07	0.005
5	15.0	28.57	0.16	1.431	0.073	19.60	2.9	0.04	0.002
MEANS				1.528	0.111	15.21			
STANDARD ERRORS				0.225	0.031	1.56			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 188.

C0	40.3	1.34	0.193
R0	0.477	0.688	0.885
R	0.923	0.961	0.958
RESIDUAL	1.11	2.30	3.82

Table 2 (cont'd)

DATE: 80 3 13 TIME IN: 68.1 TIME OUT: 110.5

STATION: NA 05 ELEVATION: 244. CM MEAN WATER DEPTH: 82. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	34.44	0.59	7.637	0.797	9.58	8.7	0.66	0.069
2	3.0	34.33	0.41	3.962	0.284	13.95	6.1	0.24	0.017
3	7.0	34.14	0.38	4.265	0.366	11.65	5.6	0.24	0.021
4	15.0	33.78	0.24	6.787	0.434	15.64	3.5	0.24	0.015
MEANS				5.663	0.470	12.71			
STANDARD ERRORS				0.913	0.113	1.32			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 82.

	TOTAL	CARBON	NITROGEN
C0	13.2	0.90	0.110
R0	0.230	0.293	0.408
R	0.952	0.885	0.901
RESIDUAL	0.38	0.61	1.18

Table 2 (cont'd)

DATE: 80 3 13 TIME IN: 68.1 TIME OUT: 305.0

STATION: NA 07 ELEVATION: 122. CM MEAN WATER DEPTH: 196. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	134.96	90.91	1.968	0.091	21.63	339.0	6.67	0.308
2	4.0	134.74	46.53	1.234	0.064	19.28	173.8	2.14	0.111
3	6.0	134.40	23.78	1.292	0.072	17.94	89.1	1.15	0.064
4	10.0	132.61	11.24	0.878	0.069	12.72	42.7	0.37	0.029
MEANS				1.343	0.074	17.89			
STANDARD ERRORS				0.228	0.006	1.88			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 196.

	TOTAL	CARBON	NITROGEN
CO	16606.4	1237.56	21.700
RO	1.268	1.721	1.417
R	0.994	0.997	1.000
RESIDUAL	2.34	4.32	2.93

Table 2 (cont'd)

DATE: 80 3 13 TIME IN: 20.9 TIME OUT: 157.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 196. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	135.18	202.48	1.630	0.227	7.18	753.8	12.29	1.711
2	3.0	135.06	18.72	1.409	0.229	6.15	69.8	0.98	0.160
3	7.0	134.43	7.43	0.937	0.143	6.55	27.8	0.26	0.040
4	9.0	133.39	7.14	0.873	0.132	6.61	26.9	0.24	0.036
5	12.0	132.24	4.22	0.759	0.117	6.49	16.1	0.12	0.019
MEANS				1.122	0.170	6.60			
STANDARD ERRORS				0.169	0.024	0.17			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 196.

	TOTAL	CARBON	NITROGEN
C0	4562.3	118.08	16.251
R0	1.169	1.404	1.378
R	0.996	0.998	0.998
RESIDUAL	9.31	13.43	12.93

Table 2 (cont'd)

DATE: 80 3 13 TIME IN: 20.9 TIME OUT: 157.0

STATION: NA 1A ELEVATION: 122. CM MEAN WATER DEPTH: 196. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.30 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	32.32	202.48	1.365	0.208	6.56	3153.0	43.04	6.558
2	3.0	31.97	18.72	1.110	0.175	6.34	294.7	3.27	0.516
3	7.0	31.41	7.43	0.874	0.127	6.88	119.1	1.04	0.151
4	9.0	31.18	7.14	0.672	0.094	7.15	115.2	0.77	0.108
5	12.0	30.95	4.22	0.608	0.086	7.07	68.6	0.42	0.059
MEANS				0.926	0.138	6.80			
STANDARD ERRORS				0.141	0.023	0.15			
						CO	18846.0	410.44	66.990
						RO	1.161	1.402	1.430
						R	0.995	0.999	0.999
						RESIDUAL	9.19	13.40	13.93

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 196.

Table 2 (cont'd)

DATE: 80 5 13 TIME IN: 10.6 TIME OUT: 35.3

STATION: NA 05 ELEVATION: 244. CM MEAN WATER DEPTH: 64. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	3.0	18.39	0.30	5.851	0.293	19.97	8.2	0.48	0.024
2	10.0	18.22	0.15	6.875	0.477	14.41	4.3	0.29	0.020
3	11.5	18.18	0.25	4.445	0.302	14.72	6.9	0.31	0.021
4	20.0	17.98	0.56	2.822	0.198	14.25	15.5	0.44	0.031
MEANS				4.998	0.317	15.84			
STANDARD ERRORS				0.880	0.058	1.38			
ROUSE EQUATION: FITS						C0	3.0	0.56	0.017
XO = 0.10						RO	-0.206	0.087	-0.075
A(2) = DEPTH = 64.						R	-0.357	0.324	-0.365
						RESIDUAL	0.11	0.02	0.01

Table 2 (cont'd)

DATE: 80 5 13 TIME IN: 10.6 TIME OUT: 35.3

STATION: NA 07 ELEVATION: 122. CM MEAN WATER DEPTH: 186. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	0.5	21.86	1.79	14.525	0.384	37.83	41.3	6.00	0.159
2	1.5	21.82	1.47	4.881	0.171	28.54	33.8	1.65	0.058
3	4.5	21.70	1.73	10.172	0.147	69.20	40.0	4.07	0.059
4	6.0	21.66	4.74	2.811	0.071	39.59	110.3	3.10	0.078
5	11.0	21.50	2.74	0.804	0.053	15.17	64.2	0.52	0.034
MEANS				6.639	0.165	38.07			
STANDARD ERRORS				2.515	0.059	8.91			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 186.

CO	24.0	12.27	0.240
RO	-0.229	0.491	0.370
R	-0.597	0.639	0.822
RESIDUAL	0.33	1.50	0.85

Table 2 (cont'd)

DATE: 80 6 10 TIME IN: 9.6 TIME OUT: 34.2

STATION: NA GS ELEVATION: 122. CM MEAN WATER DEPTH: 191. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	22.15	9.85	1.700	0.163	10.43	223.7	3.80	0.365
2	2.5	22.07	3.29	2.057	0.129	15.95	75.1	1.55	0.097
3	4.0	22.00	2.83	1.621	0.152	10.66	64.6	1.05	0.098
4	5.0	21.96	2.11	1.105	0.096	11.51	48.4	0.53	0.046
5	8.0	21.83	1.52	0.898	0.081	11.09	35.0	0.31	0.028
MEANS				1.476	0.124	11.93			
STANDARD ERRORS				0.210	0.016	1.02			
ROUSE EQUATION: FITS						C0	639.4	17.98	1.596
XO = 0.10						R0	0.649	0.852	0.865
A(2) = DEPTH = 191.						R	0.996	0.955	0.967
						RESIDUAL	1.96	3.38	3.49

Table 2 (cont'd)

DATE: 80 6 10 TIME IN: 9.6 TIME OUT: 34.2

STATION: NA GE ELEVATION: 122. CM MEAN WATER DEPTH: 191. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	0.5	22.15	4.99	11.405	0.675	16.90	113.4	12.94	0.766
2	4.0	22.00	1.90	8.456	0.644	13.13	43.5	3.68	0.280
3	6.0	21.92	0.86	10.730	0.650	16.51	19.8	2.12	0.129
4	9.0	21.79	0.54	6.159	0.570	10.81	12.4	0.76	0.071
MEANS				9.188	0.635	14.33			
STANDARD ERRORS				1.190	0.023	1.45			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 191.

	TOTAL	CARBON (G/M**2/HR)	NITROGEN
CO	397.8	59.36	2.912
RO	0.710	0.857	0.751
R	0.954	0.947	0.951
RESIDUAL	2.57	3.74	2.88

Table 2 (cont'd)

DATE: 80 6 10 TIME IN: 9.6 TIME OUT: 16.5

STATION: NA GC ELEVATION: 122. CM MEAN WATER DEPTH: 191. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	0.5	5.91	0.97	6.955	0.694	10.02	82.5	5.74	0.573
2	1.0	5.90	1.88	1.412	0.133	10.62	160.3	2.26	0.213
3	4.0	5.81	0.93	1.379	0.106	13.01	80.5	1.11	0.085
4	7.0	5.73	1.80	0.702	0.059	11.90	157.8	1.11	0.093
5	11.0	5.61	1.05	1.109	0.091	12.19	94.4	1.05	0.086
MEANS				2.311	0.217	11.55			
STANDARD ERRORS				1.168	0.120	0.54			
ROUSE EQUATION: FITS						C0	103.8	9.75	1.063
XO = 0.10						R0	-0.016	0.514	0.582
A(2) = DEPTH = 191.						R	-0.063	0.932	0.931
						RESIDUAL	0.00	1.88	2.40

Table 2 (cont'd)

DATE: 80 6 10 TIME IN: 16.5 TIME OUT: 34.2

STATION: NA GO ELEVATION: 122. CM MEAN WATER DEPTH: 191. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	17.23	1.29	2.797	0.207	13.51	37.7	1.06	0.078
2	2.0	17.22	0.74	3.219	0.336	9.58	21.6	0.70	0.073
3	2.5	17.21	1.47	1.332	0.143	9.31	43.1	0.57	0.062
4	5.0	17.18	0.34	3.083	0.322	9.57	9.8	0.30	0.032
5	9.5	17.11	0.19	3.038	0.386	7.87	5.7	0.17	0.022
MEANS				2.694	0.279	9.97			
STANDARD ERRORS				0.347	0.045	0.94			

RUUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 191.

	TOTAL	CARBON	NITROGEN
C0	363.7	7.28	0.380
R0	0.877	0.804	0.608
R	0.891	0.996	0.962
RESIDUAL	2.40	2.01	1.15

Table 2 (cont'd)

DATE: 80 11 25 TIME IN: 1.0 TIME OUT: 25.8

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 3.10 CM AREA: 7.55 SQ CM

TUBE LENGTH: 31.00 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	3.0	20.60	1.04	1.216	0.071	17.13	66.8	0.81	0.047
2	4.0	20.57	3.42	0.596	0.032	18.63	220.3	1.31	0.071
3	6.0	20.52	4.46	0.470	0.029	16.21	288.1	1.35	0.084
4	8.0	20.47	0.72	1.389	0.063	22.05	46.6	0.65	0.029
5	11.5	20.38	0.50	0.698	0.048	14.54	32.5	0.23	0.016
MEANS				0.874	0.049	17.71			
STANDARD ERRORS				0.181	0.008	1.27			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
CO	3061.5	34.52	1.571
RO	0.857	0.940	0.885
R	0.492	0.715	0.718
RESIDUAL	0.90	1.09	0.96

Table 2 (cont'd)

DATE: 80 11 25 TIME IN: 1.0 TIME OUT: 25.8

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.30 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	2.0	20.63	2.99	2.600	0.148	17.57	72.9	1.89	0.108
2	5.0	20.55	14.32	0.412	0.034	12.12	350.7	1.44	0.119
3	8.0	20.47	1.83	0.635	0.041	15.49	44.9	0.29	0.018
4	10.0	20.42	2.49	0.868	0.051	17.02	61.4	0.53	0.031
5	17.0	20.23	0.65	1.099	0.062	17.73	16.3	0.18	0.010
MEANS				1.123	0.067	15.98			
STANDARD ERRORS				0.387	0.021	1.04			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
C0	1594.2	62.22	4.508
R0	0.753	1.093	1.126
R	0.570	0.902	0.869
RESIDUAL	1.59	3.36	3.56

Table 2 (cont'd)

DATE: 80 11 25 TIME IN: 1.0 TIME OUT: 25.8

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 7.50 CM AREA: 44.18 SQ CM

TUBE LENGTH: 75.00 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	2.0	20.63	9.19	1.710	0.107	15.98	100.9	1.72	0.108
2	3.0	20.60	5.99	1.827	0.105	17.40	65.9	1.20	0.069
3	7.0	20.49	4.95	1.044	0.057	18.32	54.6	0.57	0.031
4	8.0	20.47	6.66	1.455	0.090	16.17	73.7	1.07	0.066
5	15.0	20.28	2.54	0.962	0.056	17.18	28.3	0.27	0.016
MEANS				1.400	0.083	17.01			
STANDARD ERRORS				0.173	0.011	0.43			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
C0	414.4	18.65	1.197
R0	0.479	0.776	0.797
R	0.845	0.889	0.875
RESIDUAL	0.64	1.67	1.77

Table 2 (cont'd)

DATE: 81 5 19 TIME IN: 11.8 TIME OUT: 36.3

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.1	23.95	55.39	1.019	0.087	11.71	1163.9	11.86	1.013
2	0.5	23.94	9.01	1.358	0.127	10.69	189.5	2.57	0.241
3	2.0	23.88	4.33	1.401	0.138	10.15	91.3	1.28	0.126
4	3.0	23.84	7.14	0.547	0.072	7.60	150.7	0.82	0.108
5	5.0	22.48	2.29	0.855	0.109	7.84	51.3	0.44	0.056
6	15.0	21.92	0.73	1.335	0.191	6.99	16.7	0.22	0.032
MEANS				1.086	0.121	9.16			
STANDARD ERRORS				0.139	0.017	0.79			
ROUSE EQUATION: FITS									
	XO = 0.10					CO	1014.1	10.92	0.892
	A(2) = DEPTH = 182.					RO	0.758	0.773	0.665
						R	0.961	0.994	0.991
						RESIDUAL	9.33	9.71	7.18

Table 2 (cont'd)

DATE: 81 5 19 TIME IN: 11.8 TIME OUT: 19.2

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	6.85	5.76	0.774	0.088	8.80	423.0	3.27	0.372
2	1.0	6.83	1.85	1.823	0.231	7.89	136.5	2.49	0.315
3	2.0	6.80	1.34	0.480	0.065	7.38	99.1	0.48	0.064
4	2.0	6.80	1.12	1.123	0.122	9.20	82.6	0.93	0.101
5	8.0	6.57	0.39	0.847	0.112	7.56	30.0	0.25	0.034
6	9.0	6.54	0.63	0.443	0.057	7.77	48.1	0.21	0.027
MEANS				0.915	0.112	8.10			
STANDARD ERRORS				0.209	0.026	0.30			
RUUSE EQUATION: FITS						CO	988.7	15.29	1.680
XO = 0.10						RO	0.747	0.952	0.914
A(2) = DEPTH = 182.						R	0.947	0.959	0.960
						RESIDUAL	3.75	6.08	5.60

Table 2 (cont'd)

DATE: 81 5 13 TIME IN: 29.0 TIME OUT: 36.3

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.37 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.1	8.25	62.60	0.685	0.047	14.57	3818.5	26.16	1.795
2	0.5	8.25	18.71	1.249	0.084	14.87	1141.5	14.26	0.959
3	1.0	8.25	12.99	1.128	0.111	10.16	792.1	8.94	0.879
4	5.0	6.96	1.90	1.241	0.168	7.39	137.7	1.71	0.231
5	9.0	6.89	0.42	1.998	0.275	7.27	30.8	0.62	0.085
MEANS				1.260	0.137	10.85			
STANDARD ERRORS				0.211	0.040	1.66			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
C0	5273.1	39.66	2.462
R0	1.010	0.825	0.646
R	0.975	0.968	0.955
RESIDUAL	13.62	9.09	5.58

Table 2 (cont'd)

DATE: 81 5 19 TIME IN: 11.8 TIME OUT: 36.3

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 3.10 CM AREA: 7.55 SQ CM

TUBE LENGTH: 31.00 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.1	23.95	87.79	0.329	0.042	7.83	4856.8	15.98	2.040
2	0.5	23.94	2.11	2.498	0.298	8.38	116.6	2.91	0.347
3	1.0	23.92	14.76	0.270	0.025	10.80	817.5	2.21	0.204
4	3.0	23.84	8.42	0.316	0.036	8.78	467.8	1.48	0.168
5	6.0	22.42	2.21	0.523	0.071	7.37	130.6	0.68	0.093
MEANS				0.787	0.094	8.63			
STANDARD ERRORS				0.430	0.051	0.59			
ROUSE EQUATION: FITS						CO	2186.6	12.83	1.491
XO = 0.10						RO	0.652	0.708	0.706
A(2) = DEPTH = 182.						R	0.687	0.977	0.963
						RESIDUAL	4.40	5.19	5.15

Table 2 (cont'd)

DATE: 81 5 19 TIME IN: 11.8 TIME OUT: 36.3

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 7.50 CM AREA: 44.18 SQ CM

TUBE LENGTH: 75.00 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	6.0	22.42	24.31	0.708	0.094	7.53	245.3	1.74	0.231
2	10.0	22.20	4.96	1.016	0.130	7.82	50.6	0.51	0.066
3	12.0	22.09	1.12	2.790	0.405	6.89	11.5	0.32	0.046
4	14.0	21.98	1.32	2.167	0.383	5.66	13.6	0.29	0.052
5	44.0	20.73	0.17	6.632	0.972	6.82	1.9	0.12	0.018
MEANS				2.663	0.397	6.94			
STANDARD ERRORS				1.062	0.157	0.37			

ROUSE EQUATION: FITS

XO = 0.10

A(2) = DEPTH = 182.

CO	608729.2	84.64	9.546
RO	2.058	1.069	1.019
R	0.938	0.917	0.925
RESIDUAL	11.67	3.15	2.86

Table 2 (cont'd)

DATE: 81 6 17 TIME IN: 12.5 TIME OUT: 20.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	8.50	0.93	3.482	0.360	9.67	55.0	1.92	0.198
2	2.5	8.50	1.01	2.084	0.169	12.33	59.8	1.25	0.101
3	5.0	8.50	0.24	2.823	0.310	9.11	14.5	0.41	0.045
4	6.0	8.50	0.24	1.490	0.161	9.25	14.2	0.21	0.023
5	11.0	7.90	1.35	1.020	0.096	10.63	86.0	0.88	0.083
6	12.0	7.88	0.23	1.196	0.135	8.86	14.6	0.17	0.020
MEANS				2.016	0.205	9.97			
STANDARD ERRORS				0.398	0.043	0.53			

ROUSE EQUATION: FITS
X0 = 0.10
A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
C0	78.3	5.21	0.485
R0	0.249	0.593	0.571
R	0.355	0.732	0.766
RESIDUAL	0.45	2.55	2.37

Table 2 (cont'd)

DATE: 81 6 17 TIME IN: 29.5 TIME OUT: 37.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	5.15	3.35	4.261	0.409	10.42	326.8	13.93	1.337
2	2.0	5.12	1.18	2.013	0.227	8.87	115.6	2.33	0.262
3	6.5	5.04	1.80	1.178	0.148	7.96	179.9	2.12	0.266
4	8.0	5.01	4.49	0.400	0.045	8.89	451.4	1.81	0.203
5	11.0	4.95	2.21	0.601	0.060	10.02	224.2	1.35	0.135
6	15.0	4.88	0.56	0.931	0.110	8.46	57.5	0.54	0.063
MEANS				1.564	0.167	9.10			
STANDARD ERRORS				0.586	0.055	0.38			

ROUSE EQUATION: FITS
XO = 0.10
A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
CO	388.2	39.52	3.733
RO	0.193	0.760	0.720
R	0.341	0.934	0.933
RESIDUAL	0.32	4.95	4.44

Table 2 (cont'd)

DATE: 81 6 17 TIME IN: 12.5 TIME OUT: 37.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 5.03 CM AREA: 19.87 SQ CM

TUBE LENGTH: 50.80 CM ASPECT RATIO: 10.10

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	0.5	22.15	1.55	8.124	0.772	10.52	35.2	2.86	0.272
2	2.0	22.12	1.66	1.241	0.122	10.17	37.8	0.47	0.046
3	4.0	22.08	1.69	1.028	0.097	10.60	38.5	0.40	0.037
4	6.0	22.05	1.35	0.972	0.101	9.62	30.9	0.30	0.031
5	10.0	21.39	1.17	1.014	0.126	8.05	27.6	0.28	0.035
6	16.0	21.15	0.95	1.037	0.131	7.92	22.7	0.24	0.030
MEANS				2.236	0.225	9.48			
STANDARD ERRORS				1.178	0.110	0.49			

ROUSE EQUATION: FITS

X0 = 0.10

A(2) = DEPTH = 182.

	TOTAL	CARBON	NITROGEN
C0	49.5	5.78	0.449
R0	0.121	0.677	0.593
R	0.746	0.935	0.891
RESIDUAL	0.12	3.71	2.84

Table 2 (cont'd)

DATE: 81 6 17 TIME IN: 12.5 TIME OUT: 37.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 3.10 CM AREA: 7.55 SQ CM

TUBE LENGTH: 31.00 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL (G/M**2/HR)	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN (G/M**2/HR)
1	1.0	22.14	0.61	2.181	0.229	9.52	36.8	0.80	0.084
2	2.0	22.12	0.51	1.455	0.217	6.71	30.6	0.45	0.066
3	3.0	22.10	0.54	1.102	0.136	8.10	32.6	0.36	0.044
4	5.0	22.07	0.38	1.204	0.163	7.39	22.6	0.27	0.037
5	11.0	21.35	0.51	0.680	0.097	7.01	31.6	0.21	0.031
MEANS				1.324	0.168	7.75			
STANDARD ERRORS				0.248	0.025	0.50			
ROUSE EQUATION: FITS						C0	42.0	2.39	0.224
XO = 0.10						R0	0.092	0.530	0.436
A(2) = DEPTH = 182.						R	0.474	0.974	0.970
						RESIDUAL	0.03	0.97	0.66

Table 2 (cont'd)

DATE: 81 6 17 TIME IN: 12.5 TIME OUT: 37.0

STATION: NA 11 ELEVATION: 122. CM MEAN WATER DEPTH: 182. CM

TUBE DIAMETER: 7.50 CM AREA: 44.18 SQ CM

TUBE LENGTH: 75.00 CM ASPECT RATIO: 10.00

TUBE	HEIGHT (CM)	TIME COVERED (HR)	TOTAL CATCH (G)	PERCENTAGE OF CARBON	PERCENTAGE OF NITROGEN	C:N RATIO	CATCH RATES TOTAL	CATCH RATES CARBON (G/M**2/HR)	CATCH RATES NITROGEN
1	3.0	22.10	1.93	3.545	0.386	9.18	19.8	0.70	0.076
2	6.0	22.05	3.70	1.852	0.183	10.12	37.9	0.70	0.069
3	8.0	21.47	1.50	3.193	0.305	10.47	15.9	0.51	0.048
4	10.0	21.39	3.12	1.396	0.183	7.63	33.1	0.46	0.061
5	13.0	21.27	2.04	0.957	0.110	8.70	21.7	0.21	0.024
6	24.0	20.84	0.27	4.607	0.485	9.50	2.9	0.14	0.014
MEANS				2.592	0.275	9.27			
STANDARD ERRORS				0.577	0.058	0.42			
ROUSE EQUATION: FITS						C0	623.3	16.36	1.604
XO = 0.10						R0	0.793	0.827	0.805
A(2) = DEPTH = 182.						R	0.642	0.911	0.897
						RESIDUAL	1.75	1.91	1.81